



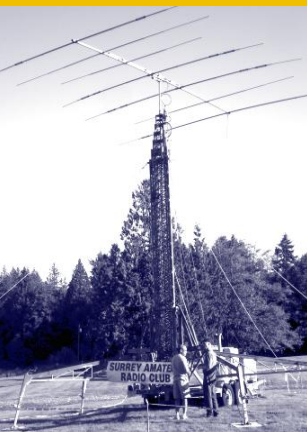
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The SARC Communicator is published monthly for members of the Surrey Amateur Radio Club.

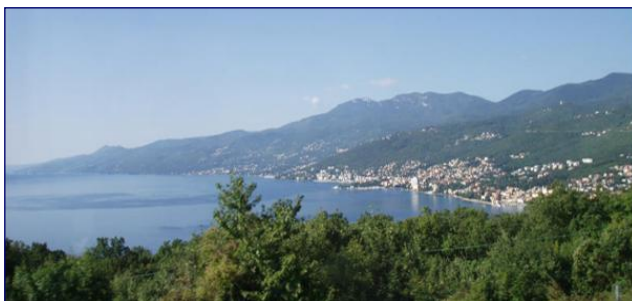
SARC maintains a website at www.ve7sar.net that includes club history, meetings, news and other information.



ARDF World Championships !

Local Amateurs Compete For Canada

Amateur Radio Direction Finding is also called Radio Orienteering, foxhunting, or transmitter hunting. The sport described here has been standardized and fostered by the International Amateur Radio Union since about 1978. The object is to locate and visit on foot each of up to five transmitters concealed in a wooded area in as short a time as possible by using a directional receiver to obtain bearings to the transmitters. The transmitters (foxes) all transmit on the same frequency, but take turns transmitting a unique signal for one minute and are silent for 4 minutes while the others transmit. The skills needed to succeed include obtaining accurate bearings with the receiving gear, navigating through the wooded area using map and compass, and devising a strategy to visit the required sites in the minimum time



A small team of five people representing Canada, four from BC, traveled to Croatia to compete in the ARDF, in September 2010. is the first time Canada has participated at the World Stage ARDF competitions.

The Championships was held in Opatija, situated at Adriatic Sea coast, 12 km west of Rijeka and 170 km west of Zagreb, capital town Republic of Croatia. Opatija, often called the Pearl of the Adriatic, is one of the most popular

tourist resorts in Croatia and has the longest tourist tradition on the Adriatic Sea. As early as 1883, Opatija was known as a favorite destination for high society and famous artists from all over the world who came to Opatija to find new energy in this unique landscape.

The terrains are located within 70 km range from Opatija; mid-difficult, with small hills, mostly covered with forest. Competition areas are at 500 to 1000+ meters above sea level so there is big possibility of lower temperatures in the competition area than those in the city of Opatija (at sea level), for this reason, warmer clothes are preferred. The region of [Gorski Kotar](#) had been selected for this event.

The hidden transmitters, foxes, are located so that the associated marker flag (control) can be seen when the hunter is within about 3m of the transmitter; they will be at least 400m apart, and no fox will be nearer than 750m from the start. A homing beacon on a different frequency from the foxes is located at the entrance to the finish corridor.

Each fox transmits a signal with a unique pattern that identifies it. The standard patterns are incidentally slow Morse code characters, but you do not need to know that to understand which fox is on.



Prior to any competitor being on the course or starting of the foxes, it is usual to gather the receivers in a quarantine area near the start. When there are many competitors, they will be divided into groups of 3 to 10 and the groups start at 5 minute intervals to spread competitors out in time. A few minutes before the start, the competitors will receive a map of the area and any last-minute info about the course and will pick up their receiver from the quarantine. The receivers must remain turned off while awaiting the start.

The hunter will leave the start position when instructed to do so, go to the end of the marked start corridor (about 100m long), turn on the receiver after passing the end of the corridor and begin to locate the foxes. At each fox, the hunter will punch his score card with that fox's unique punch to

(Continued on page 7)

Meeting Minutes

Gord Kirk VE7GRK—SARC Secretary



March 9, 2011 Meeting Minutes

SARC EXECUTIVE FOR 2010-2011

PRESIDENT
John Brodie VA7XB

VICE PRESIDENT
Don Hamilton VA7GL

SECRETARY
Gordon Kirk VE7GRK

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Kelvin Hall VA7KPH
Fred Orsetti VE7IO
John Schouten VE7TI
Gary Skett VE7AS
Chris Zetner VA7CMZ

4. Club Name Badges

We are looking to place another order for name badges. If anyone is interested let John Brodie VA7XB know. The order will be held to allow anyone currently in the Ham Class to graduate and receive a call sign to put on the badge.

5. Treasurer's Report

The Treasurer presented a report on the club's current finances. The books are open to members for review upon request.

6. RAC Report

None available.

7. SEPARS Report

This coming Saturday a group will meet with other South Fraser Em-Comm groups to create a list of Frequencies where a group may be found during an emergency.

Meeting Location: PREOC

The general meeting was started at 7:00 pm President John VA7XB. 37 people were in attendance.

1. Voluntary Insurance Assessment

John reminded club members that at the last meeting we voted for a voluntary \$5.00 payment to help offset the increase in RAC insurance rates. If any members wanted to pay it would be appreciated.

2. Kjeld Fredericksen

Kjeld is recovering well from surgery and a card is available to sign to wish him well.

3. Privacy Policy

Don VA7GL briefly spoke about our privacy policy. The club statement is on the website and on the application forms.

8. Website Review

Still ongoing. A meeting on Sunday is scheduled to review some design concepts.

9. Ham Class

There are 17 students in the class.

10. Gaming Grant

The 16x20 tent has been purchased. Sinclair Antenna's will be purchased in the next few weeks for 2m, 440, and 220 repeaters.

11. Fox Hunt

Anton VE7SSD gave an update of this annual event. The location will be at Crescent Park (approximately 132Ave /28th). It is a free event, but there is a \$10.00 charge for the BBQ afterwards. Amel from BC Radiosport will demonstrate some equipment. Those without equipment there is some spare equipment available you may borrow. There also will be a novice and advanced class. If anyone is interested in building a tape measure antenna and would like some help contact John Brodie VA7XB. Further details on page 8.

12. Field Day Update

This group has already met to review the Grandview Heights School Ground location. This is a good site, at a nice elevation. We have confirmed the grant for \$850.00 from the City of Surrey can be used to offset field day costs.

13. Next Meeting

John White from NSARC will demo lightning protection and grounding.

14. New Business

None

- Break -

15. Fall Protection Presentation

Dan VE7ACV gave a presentation on Fall Protection. A copy of his Power Point will be on the website. Please note that Dan says this is an awareness session only and must not be considered certification in any way.

The meeting ended at 21:10

SEPARS Report

Fred Orsetti VE7IO



Monthly exercise with Langley

As we reported last month we planned a shift change for the February exercise and I am happy to report that it went very well. Our first shift was 0900 to 1200 with on the air activity starting at 1000 with the new team taking over at 1200 noon and shutting down the station at 1400. We then had a review of the exercise for approximately 45 minutes. For the shift change we shut down for a 10 minute period to allow time for the new team to become familiar with the morning's activities.

Each exercise shows significant signs of improvement from all aspects but most significant is the progress with D-Rats. We have overcome the voice inter-mod issues allowing for a much improved flow of voice communications. A new Net Control Operator was training as well and he did a great job.

Our next exercise with Langley will be on Saturday March 26th and we will again do a shift change and continue to expand our use of digital messaging.

Expanding the exercise area

On March 12th we participated in a meeting with Delta, Langley and Abbotsford to explore ways to expand the exercise to areas south of the Fraser. Surrey and Langley have now established some very good standard operating procedures which we shared with the other participants in the meeting. More meetings are scheduled over the next few months with a target of the fall to set up a south of the Fraser exercise.

School workshop

Marcy, VE7JT, and Fred, VE7IO, met with the principal and two classroom teachers at Beaver Creek elementary school on February 24th to look over the site and provide the school with our agenda for the classroom workshop. The site is very good with easy access to the classroom and ample space for the antennas. The workshop is scheduled for April 28th.

In addition to the school workshop program we are meeting with the Newton and Fleetwood Libraries to explore how SEPAR can be involved with a selected group of children. First meeting is on March 30 with both Newton and Fleetwood libraries and the Teen Advisory Group (TAG).

ESS exercise

SEPAR will be providing communications for the ESS exercise on April 30th. The exercise will be at the Fleetwood Recreation Center and start at 1200 noon.

Monthly workshops

The February workshop was a hands on training session on operating the IC 2820 radios. Mainly the focus was on how to change frequencies and use the memory channels. The March workshop will be a table top exercise using the scenario we will use for the March exercise. The workshops are a good mix of social activities and hands on training and they are well attended.

Weekly net

The weekly net check-ins continue at a moderate level and the practice message portion on 146.550 simplex is showing increased activity. Drew Elvins is tracking, amongst other things, the net activities so we have a very good picture of how well we are doing.

Check in if you have not become a regular participant.

Gaming fund expenditures

1. Vests - we will take delivery of the vests on March 18th
2. BCWARN - the business plan for installation of the BCWARN repeater at Concord Pacific has been submitted and to date we have not heard how it is progressing. On Friday March 11th Ian Procyk, VE7HHS, Drew, VA7DRW and myself (Fred VE7IO) met with Dan Barnscher at fire hall #1 to bring Dan up to speed on just BCWARN will do for us. There is not too much more to do at this time.
3. Training - the ICS 200 course went very well with 14 SEPAR members writing the exam. We are waiting for the results however we have begun to implement the ICS structure into our exercises. More and more we will move to a complete ICS operation.
4. Hi-Q antennas - this project is on hold at this time as we are waiting for improvements in the weather and some new hardware to mount the antennas.
5. 220 MHz radios - We have 4 Alinco 220 Mhz radios, one of which will be installed at the radio room by the end of March and the other 3 into the grab and go kits very shortly. Designing a mount for the new antennas to be used with the kits has been a bit of a challenge however after some discussion we have decided on a design and this is currently being worked on. We should have the addition of 220 Mhz to the SEPAR communications within a month.
6. We are still hopeful that we will be able to free up some funds to purchase a trailer.

SEPARS Annual General Meeting will be held on April 7th so please mark your calendars.

Mobile Installation Basics

Mobile installations can be complicated, whether it is for a complex rover rig setup or just a relatively simple two meter FM installation. Here are some lessons that I have learned in that area over the years.

Getting power to the rig

Connect directly to the battery. This provides a degree of filtration against alternator whine and ignition noise. A direct connection allows you to use your gear without turning the ignition on, though you must take care to turn the radios off or you will end up with a dead battery. Some rigs have an "auto off" function that solves this problem.



This is the fuse box installation in my 2005 Toyota Tundra. The box is a small fishing tackle box with some partitions removed. It is affixed to the air filter housing with Superlock® fasteners. The large PowerPole® connectors enable me to unhook the power in an emergency. Note that this container even provides for the storage of spare fuses.

I suggest putting fuses on both legs of the power lines as close to the battery as possible. This protects your equipment and your vehicle if you have a catastrophic short circuit. In addition, you'll need individual fuses for each piece of equipment. Don't forget to stock up on extra fuses too. Check out the accompanying photos to see the installation I recently did in my Toyota truck.

Cigarette lighter circuits are light duty and are usually unsatisfactory for radio installations. If you must use one you should reduce power on the rig to limit the current draw. There are several power distribution panels on the market, and nearly all of them use Anderson PowerPole® connectors. They make a much better distribution system than a cigarette lighter socket.

PowerPoles are the national standard for many organizations and a wide variety of accessories using them are available. These panels usually have individually fused circuits and some even provide audio alerts for low voltage. When doing a mobile installation I prefer to put in a power panel to provide for future needs. The panels come in handy for connecting other radio's, a GPS, a power inverter or other accessories.



Power panel - This is one of two power panels in the Tundra. The other one is located on the transmission tunnel just forward of the passenger seat. Each will handle 30 amps and has a main fuse plus individual circuit fuses. These panels are available from the nice folks at <http://www.dcpwr.com>.

Routing cables

Getting cable through a firewall can be a hassle, but it can be done. Most vehicles have holes in the firewall that are sealed with plastic or rubber plugs. Once you have determined that you can get to both sides of the plug, pull it out and punch an appropriate size hole through it using a gasket punch. Use a hole that provides a snug fit to the cable. Inexpensive gasket punches are available at Harbor Freight, item 6770-9VGA. This gives you a clean hole for your cable and will prevent the grommet from splitting.

Once the cable is in place, seal around the cable opening with RTV or silicone caulk. This will reduce drafts, engine noise and the possibility of carbon monoxide entering the cabin. When running cables inside the engine compartment, be sure to avoid hot exhaust component and moving parts such as the steering linkage. Likewise, if you are routing cables under the dashboard make sure that they do not rub against or interfere with moving parts such as heater control cables, brake cables, etc.

Installing cables inside the vehicle can require some effort. You can usually lift trim panels on the door sills by removing screws. If you are lucky, there will be a cable trough under the panel. An electrician's snake can be handy for pulling wires, especially under carpet or between the headliner and roof. If you route cables under carpet do not route under heavy wear areas.

Where to put the rig

The placement of the transceiver is critical. It should be in a convenient location for operation and should not interfere with vehicle controls. Many mobile rigs have remote control heads which makes installation a lot easier. The only downside to remote heads is that the speaker is in the



Mounting the control head - Here's a view of the control head for my IC-706MKIIG mounted on the dash of the Tundra. I was able to snake the remote cable under the dashboard and out through a gap by the wind-shield. The mounting bracket is bolted to an aluminum mount that is affixed to the dashboard with Velcro. The Velcro on the top of the control head is to affix a sun shield. This shield is necessary to keep the unit from overheating in direct sunlight. It extends over the defroster vents and directs cold air to the control head.

main body of the radio and it may be hard to hear. This problem is solved by installing a small mobile speaker. If possible, place the rig and control head where it cannot be readily seen from outside the vehicle. This will reduce the chances of theft.

I prefer to have the microphone cord routed so it comes from behind me and has tension on the cord when I am using it. This allows me to drop the microphone without it getting tangled in the controls. I learned this lesson the hard way when I wrapped a mike cable around the steering wheel and ended up in the ditch! Securing the microphone can be a distraction when driving, so you might wish to use self-adhesive Velcro rather than the catches that come with the gear. I like to put the scratchy side of the Velcro on the dashboard or console so I can feel it with the backs of my fingers when I am stowing the microphone. I also use Velcro to secure brackets for control head mounts.

Radio Shack sells "Superlock Fasteners" that are a lot like Velcro, but much heavier and stronger. It is not cheap, but it

allows you to mount gear without drilling holes in the car if you have a clean flat surface.

Mounting an antenna

Antenna mounts can be tricky, especially with newer cars. If you are willing to punch a hole in a fender or the roof, use a Greenlee punch or a metal-cutting hole saw. This gives you a nice clean hole that is easier to weatherproof. If you own a pickup, consider the GeoTools pickup stake hole mounts. Their web page is at:

<http://www.geotool.com/antmount.htm>

I've used two of them on my 2005 Toyota Tundra. They are beautifully made and it is easy to make a clean installation with them.

You should take care when routing antenna cables. They also must be kept away from moving parts, exhaust parts and sharp edges. Consult your auto dealer to determine the location of on-board computers and give them a wide berth for fear of interfering with vehicle electronics.

Do yourself a favor and tag your antenna lines at the radio end. This is especially important if you have more than one antenna. If the antenna connections on the rig are not easily accessible, you might consider running a piece of coax to a more easily accessible location and installing an antenna splitter switch there. This will enable you to switch to a portable antenna should the need ever arise.

The next step is to check the continuity between major body parts such as the roof, fenders, trunk lid and hood. If you do not have continuity between these parts it will affect the antenna ground plane and reduce ignition noise shielding. Fortunately, it is usually easy to bond these components with small pieces of ground braid.

Once everything is in place, check the SWR and make appropriate adjustments. An antenna analyzer is the ideal tool for this, but you can also use a SWR bridge that registers in the appropriate frequency range.

Lynn Burlingame, N7CFO

Reprinted with permission, from the Fall 2007 issue of 'Noise Floor', the publication of the Pacific Northwest VHF Society
<http://www.pnwvhfs.org>

Visible Clouds in the Ionosphere?

Lumpy clouds of ionized gas in the ionosphere often return radio signals to earth. The returned signals tend to twinkle like starlight (only slower), because of the constantly changing positions and radio transparencies of the ionized clouds. The twinkle phenomenon is called radio scintillation. What is less commonly known is that visible clouds of some kind sometimes form in or near the base of the ionosphere. When they form, they often are illuminated by sunshine well after surface-level sunset, because of their high altitudes. Scientists don't why they form or exactly what they are, but they are believed to be related in some way to the level of solar activity. Look in the sky well after sunset when the atmosphere is clear of lower water-vapour clouds and you may see them.

QRM

News Clips

Field Day 2011

The location is Grandview Heights School at 20th Avenue and 176th Street. The school is shut down and Surrey Fire Services has made arrangements for us to use it.



We need to start thinking about how best to set up antennas, tents, trailers etc.

Message from Kjeld

I received a nice get-well card from the radio club. It was very much appreciated that somebody was thinking about me, when the radio was the last thing I would pay attention to. —VE7GP Kjeld

Hope you are feeling better. Get well quick and we hope to have you back on the air soon. —Ed.

Communications Academy 2011

SAVE THE DATE!

**A Training Workshop for
Volunteer Emergency
Communicators
South Seattle Community
College—Seattle, WA.
www.CommAcademy.org**

April 16-17, 2011

Keynote Presentations
40 hours of classes
& workshops
Exhibitors & Vendors
Communication Van displays
Door & Raffle Prizes

COMMUNICATIONS ACADEMY
EMERGENCY COMMUNICATIONS
CONTINUING EDUCATION

SARC Name Badges

We now have quite a few new club members and it is time to place another order for name badges.

If you would like one, please respond no later than March 29th by email to va7xb@rac.ca. Cost is \$10 per badge, payable when you get the badge.



This is what they look like....dark

blue lettering on white background, with a pin on the reverse side. In replying, **please state the name and callsign** you wish to appear on the badge.

April SARC Meeting

John White VA7JW will give a talk on Lightning - Characteristics, Grounding and Suppression Devices

Grounding systems and impedances are examined as are protection techniques utilizing arrestors and various surge rated components to protect the station.

If you have an amateur station with an antenna up in the air (who doesn't?) then you won't want to miss this presentation.

Require Assistance?

A SARC member who requires assistance or coaching with any aspect of the amateur radio hobby, including...

- Purchase, installation or operation of radio equipment
- Technical issues, including malfunctioning equipment
- Computer-to-radio interfacing
- Operating advice
- Contesting
- Interference with other devices (RFI)
- Antenna construction, erection or take-down, or
- Other issues of a regulatory, operational or technical nature.

should get in touch with SARC Vice President, [Don Hamilton VA7GL](#). Don will arrange for capable assistance.

(Continued from page 1)

prove having visited that fox. After locating all the foxes required, or as many of them as there is time for, the hunter exits the course via the marked finish corridor.

The time elapsed from leaving the start position until reaching the finish line is recorded along with the number of transmitters successfully located to determine the hunter's standing with respect to others in his category. The standing is first among those finding all of the required foxes in the shortest time, then among those finding one fewer fox, etc. Those not returning to the finish within the maximum time limit (2 hours, typically) are disqualified. The team's members:

G.D. (Joe) Young VE7BFK—Member of Friendship Amateur Radio Society Canada



Joe's been ARDF coordinator for Radio Amateurs of Canada since 2002. He's been a driving and supporting force in radio sport - ARDF development in Canada and BC. He's been regarded as an important and valuable member of Radio Amateurs

of Canada ARDF. He has also been active in the [Friendship Amateur Radio Society Canada](http://www.friendshipamateurradio.org) and Worldwide.



John McConnachie—Member of Friendship Amateur Radio Society Canada

John is a member of the Friendship Amateur Radio Society Canada and has participated in ARDF competitions hosted by that organization since 1993. He has also been involved in hosting regular practice/demo ARDF sessions in Victoria since that time to the present.

Valeri Geuorguiev VE2UMS

Valeri has been active in the Montreal Amateur Radio club. He has increased their ARDF activities recently by contributing a design for a 2m ARDF receiver that was then constructed as a club project so that there are now a couple dozen equipped to participate in ARDF. He competed on the European and Region II ARDF levels and had great results.



Les Tocko VA7OM—Member of Maple Ridge Radio Amateur Club and BC Radio Sport

Les was a Czechoslovakian and European champion in multiple categories, as an individual and in team competitions. For more goto <http://bcradiosport.blogspot.com>. He is also an active promoter and teacher of Radio Direction Finding skills in Maple Ridge BC area. His excellent technical building skills have produced high quality equipment for radio direction finding.



Amel Krdzalec VA7KBA—Member of Burnaby Amateur Radio Club and BC Radio Sport

Amel was a national champion of the former Yugoslavia and Bosnia in multiple categories, and as an individual and in team competitions. He is also a reigning champion from the last International Friendship Amateur Radio Games 2008 ARDF, in the category "men below 45 years. He is also an active promoter and teacher of Radio Direction Finding skills in the Vancouver area. He's been recognized by many radio amateur clubs for development of the Radio Direction Finding movement (BC RadioSport) in the Vancouver region.



Nick Roethe

Nick was born in Montreal in 1953 but he has lived in Germany since he was 5 years old. Nick eventually became an electrical engineer and worked for IBM in Germany and the USA. He enjoys hiking and rock climbing, and he is an active ham with special focus on ARDF. Today Nick lives in Southwest-Germany, where Mercedes and Porsche cars come from. He has close relatives in Vancouver and has been there many times. Nick participates in dozens of foxhunts every year, mainly in Germany, but also in other European countries. He has attended the last two Region 2 championships and won 3 first places. In this year's German championship he finished second on 80m. Nick makes high quality ARDF receivers for both the 2m and 80m bands. At the last German Championships in August 2010 receivers made by him won total of 6 gold, 5 silver and 2 bronze medals!



I have noticed even people who claim everything is predestined, and that we can do nothing to change it, look before they cross the road. - Stephen Hawking

News You Can Use

What's Happening in Amateur Radio

Get Ready To Hunt Those Elusive Foxes!

SARC is pleased to announce that it will be hosting its Annual Fox Hunt at Crescent Park, South Surrey, on May 14, 2011 between 9 am and 2 pm. It promises to be a great day of fun, and there will be an open air BBQ after the event. Get your antennas in working order and let's go Fox Hunting.

Any type of directional antenna is permissible. Typically the directional antenna is homebrew. The "fox" will be transmitting on 2 meters, so a 2m handheld radio is also required. Should you not have the required equipment, don't worry, spare equipment is available for you to use. For those hams wishing to build a directional antenna, please see the construction plan which appeared in last month's Communicator.

Participation in the Fox Hunt is free and the cost of the BBQ is \$10 per person, payable on the day of the event. Registration and instruction will take place between 9 and 10 am with the hunt to start at 10 am, followed by the BBQ at 12:30. Winners will be announced at 1:30 pm.

Please note that this year the foxhunt starts at a different location than last year - see the official notice on the right for a map.

Mark the date on your calendar and come on out with your friends and family. All are invited and let's have some fun on what should be a lovely spring day.

All interested must register with Anton James at jamesadf@shaw.ca.

- Anton James Ve7SSD



SURREY AMATEUR RADIO CLUB 2011 RDF Foxhunt

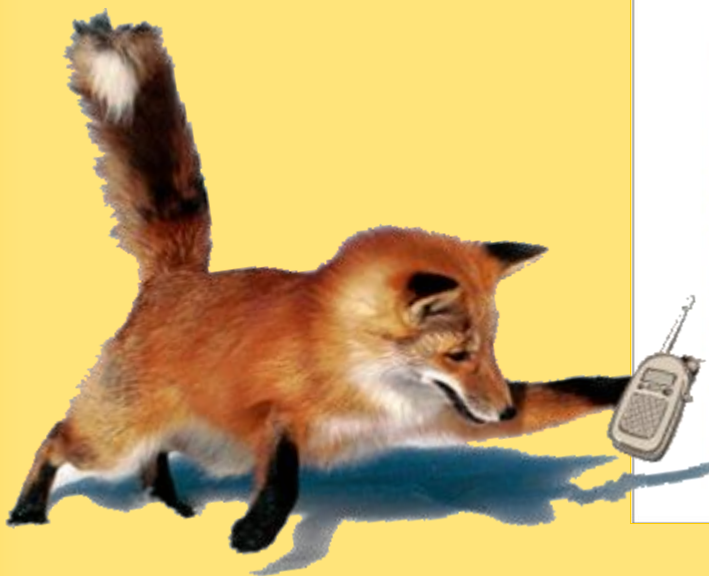
**Saturday May 14, 2010 at
Crescent Park, South Surrey**

**Registration & Instructions 0900, Foxhunt commences at 1000
Barbeque at 1230
Talk-in 147.360+ (110.9 tone)**

FOXHUNT - NO CHARGE; BARBEQUE \$10

All clubs and individuals are welcome, but we ask that you RSVP Anton James VE7SSD jamesadf@shaw.ca if you plan on attending:

Take Crescent Rd. west from King George Highway near Hwy 99, & turn off at 129th St. to parking & assembly area



Meeting Notes

All About Tower Safety

A Full House at Tower Safety Presentation



It was a full house at SARC's March 9th meeting where nearly 40 members and visitors were treated to a comprehensive 90 minute presentation on various aspects of tower safety by Dan Renaud VE7ACV of Prestige Telecom.



Dan not only trains and certifies on tower climbing safety, but offers expert training on RF hazards, confined space, hoisting and rigging, and many other safety issues of interest to amateur radio operators and industry. He emphasized that the talk was not for certification but rather was simply for awareness. He pointed out that if you own a tower, seek assistance from your friends and colleagues, and give permission for work to be done, you likely retain liability, should something go wrong.

When employing a contractor for more than 8 hr/week or a total of 24 hours of tower work, clearance from Work-safe BC should be sought to ensure that the contractor is in good standing.

You must ensure that the contractor has adequate insurance coverage. Subjects reviewed during Dan's talk were hazard analysis, preparation of an emergency plan, fall arrest and fall restraint, climbing equipment, climbing techniques and personal protective equipment. Fall protection is required when climbing heights over 10 ft. in BC. Dan talked about the requirement for 100% tie-off and 3 point contact; free climbing is not approved. Harnesses, work belts and lanyards, unless otherwise specified, may not be legal if over 5 years old; carabiners must be of a modern self-locking design and of the correct type - rock climbing carabiners are not legal for tower work, nor are shackles.

Tower inspections should be documented and include general condition, grounding, and verticality. Standard and not-so-standard equipment was demonstrated, with limi-

tations and proper use of each explained. These points and more are outlined in Dan's PowerPoint presentation which will soon be found on www.ve7sar.net. Anyone who missed the talk will have another chance when the North Shore ARC hosts a repeat within the next couple months.



- John Brodie VA7XB

Application Notes

Gary Skett VE7AS

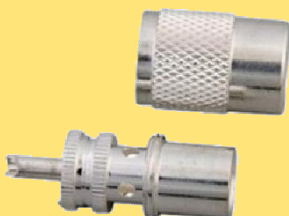


One of the more important parts to your antenna system, besides the transmission line and antenna, is your choice of connector and how you install them. Recently I was asked by a young Ham [who shall remain nameless]... No wait, let's call him... ahhh... Chris! Yeah, that's a good name for this character... Anyway, "Chris" ask me to have a look at his cable because the SWR was randomly changing from bad to worse... and he suspected the cable.

Nice cable, RG-8X/U Foam dielectric, stranded core... good quality... wasn't the cable... rarely is. It is usually the much neglected and usually poorly installed PL-259 or UHF Male.

[Short digression for a history lesson...] This connector has been with us since the 2nd World War... made for the

US Army for their new coaxial cable... cable we hams bought up by the truck load from the surplus stores afterwards and still today by the 1000' spool for all our antenna needs. The PL259 was good from 1.6 to 220 MHz.



Even though its modern [civilian] designation is UHF Male, it's not all that good above 180MHz. Its impedance starts to vary as it approaches our UHF band as we know it today, but back in 1940 UHF meant it was good up to frequency not yet commercially viable. It was a Ham that discovered that above 220 Mhz. we should be using N-Connectors [N for Navy] as it was a better connector - more stable less losses - from frequencies above 220 MHz to 2.4 GHz.

Anyway, enough of that... what I found on Chris's cable, where two of the sorriest looking connectors I had ever seen [ok I exaggerate a wee bit...] It was a great example of a cold solder joint and use of the wrong type solder. With a little force, the centre conductor separated from the pin... and there

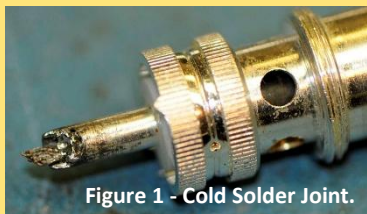


Figure 1 - Cold Solder Joint.

wasn't any solder on the braid to shell at all... A good tug and I separated the connector from the cable... A little cleaning and I could actually reuse the connector as there was not much solder stuck to the pin.

The other end was a shock to me! Hummm... did Chris run out of solder? A dot at the end of some pretty mangled looking stranded centre conductor and the braid was just stuffed up into the end of the connector...



Figure 2—Where's the solder?

This came apart with a slight tug after I unscrewed the adaptor [by hand.] Didn't even have to clean this one, it was in like new condition, never seeing a soldering gun. Well at least not long enough to melt solder.

So what do you need to make that perfect PL-259 connection? First of all a good soldering "gun" as very few soldering pencils will have the heat necessary to use on any connector like the PL259. A Weller 8200 - 100/140 Watt gun is barely adequate, but will do in a crunch and if you have the patience to wait. I use a Weller D650, a 200/300 Watt gun for RF connectors and heavy gauge wire antennas, as well as small copper tubing antennas. It has the heat to make good solder connections. You can get it from an Internet store for as little as \$55US if you shop around.

The next thing you need is good rosin core [NOT ACID CORE!!] solder. Kester is the most common brand. A good 60/40 leaded solder makes for a shiny finish and melts at a soldering gun temperature. Rosin residue is sticky when cold and requires cleaning afterwards. I like Kester's organic rosin core solder [red label] as it doesn't leave much residual rosin

behind and it's easier to clean. Either one of these spools will set you back \$60-\$85 depending where you shop... but amortize that over a decade and it's not so much. The diameter of a pencil lead is about as large as you want to go. Mine is about half that diameter as I solder a lot of kits and tiny parts, so I find a thin 1mm to 1.5mm a good all-round thickness.

I personally don't like using Lead Free solder, although I have to use it at work for the PCB's I assemble for export. A spool will set you back \$110 or more... and you need a hotter melting temperature [800-845°F and the finish is dull, quite like a cold solder joint in leaded solder. The green people like it though.





A decently soldered UHF Male should look something like this. Notice I solder the adaptor to the shell. I also don't solder all the little "windows" as it

just gets too darn hot and I've melted the cable once trying to do that. And even though there is an endless debate among Hams, I personally find absolutely no effects - positive or negative - by just soldering the braid through one window alone. YouTube has a lot of "how to" videos and your ARRL Handbook has a good tutorial for you to follow on how to install RF connectors. RTFM people!!

After it cools, I buff the centre pin to rid it of rosin and after connecting it to the antenna use coax seal or splicing tape to weather proof the connection. If done well, that connection should last 20 years.

So peoples, let's not do a "ChrisConnector" and get the right tools and materials. It's so important to an efficient antenna system... and the SWR you save may be your own!!

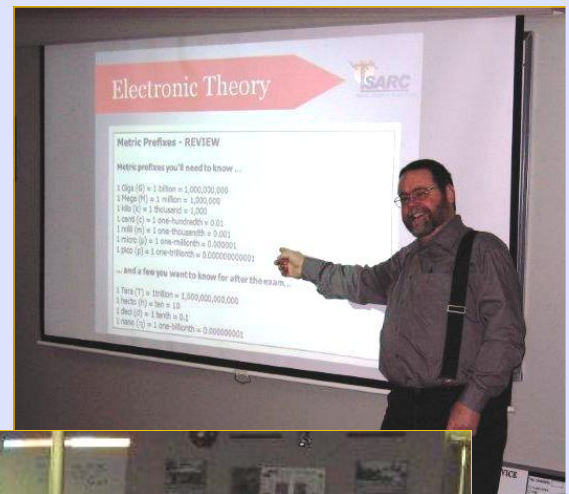


Our solder ace 'Chris'

SARC Winter Ham Class Well Underway

Gary has 18 participants working towards their BASIC [with honours] license. About half the students are professionals in Fire Fighting, Ambulance and Police, some are yachtsman going offshore and others are there for a retirement hobby. There is also a Scout-age young man, Joshua who is there to start a life-long hobby and maybe a new Scouting badge. Exam night is April 21st, where Gary expects everyone to obtain their goal and earn their license.

On May 7th from 9 to 3 pm, at the Surrey Fire Service Training Centre, there will be a New Ham Seminar for these and other new Hams. Further details in the April Communicator.



Radio-Active

Alan Saunders VA7BIT



Alan Saunders of Surrey received his amateur radio license in May 2009, becoming a new member of SARC. Since that time he has been active in a number of club activities, but for those who haven't yet had the pleasure of getting to know Alan, we offer this brief introduction.

Alan first became interested in ham radio as a youth, participating in Scouting activities. Not conquering Morse code at the time he didn't become a licensed operator, but the hobby continued to hold his interest. Later, as an Air Cadet, he had an opportunity to work on radio electronics, but still didn't get involved in radio operations.

More recently, as a member of the Church of Latter Day Saints (LDS), Alan was called upon to get involved in setting up an emergency communications program for local members of his community. As he began organizing the interface with local municipal and provincial emergency support services, he quickly discovered that one his first steps needed to be getting a ham license. He was surprised to discover, so many years later, that the ham radio hobby hadn't gone the way of the Heathkit. It not only still existed, but was flourishing. A whole new world opened up for him, and he discovered that the hobby and technical art of amateur radio continues to capture his interest.

Alan's emergency comm efforts on behalf of the local LDS community span the area of Richmond, Delta, Coquitlam and all of Surrey, northward from the border. Not surprisingly, one of the first interests he actively pursued upon receiving his license was participation in SEPAR. With the help of SARC member Fred Orsetti and other local SEPAR members, he began learning how to dovetail existing services into his own program planning.

In addition to encouraging local members of his community to become licensed and active ham operators, Alan's goal is to establish an effective emergency communications protocol and network whose members - individual families and neighborhoods - get educated on how the system works and become familiar enough to be able to activate

it under crisis or disaster conditions. Like all networks bridging people and technology, the project will continually be a work in progress.

Becoming involved in local SARC activities, Alan was initially surprised at just how much there was to get involved in! Thinking at first that he'd focus on emergency communications rather than things like contesting, he quickly discovered just how important the contests were in building skills, speed, getting familiar with nets, etc., and he now looks forward to participating in them.

Currently intent on getting his Morse endorsement, as time permits, he's also very interested in IRLP linking, which has proved to be a great way to introduce amateur radio to newcomers. Alan finds that being able to pull up Google Earth on a computer, and in a few seconds start talking with someone on the other side of the world via handheld radio always gets impressive feedback.

Meanwhile, he's intent on getting his own ham station in tiptop working order, particularly his HF. Starting out with a Yaesu 8900, Alan liked the idea of having a radio he could pack out and drop off, if needed, to serve as a small repeater. Next he added a Yaesu VX8 handheld to the mix, which allows him to transmit on the 6 meter band to his 8900 radio. More recently he's added a third radio, a Yaesu 897 HF all-band. Looking forward, Alan's also interested in software-defined radio. And given the fact that his professional background is in computer electronics and technology, software-driven radio will be a natural fit.

Aside from the nearly 100 licensed hams in the Lower Mainland's LDS community, including Alan's 27 year old son, and a daughter and son-in-law in Langley, he enjoys getting the association of SARC members and SEPAR participants. Being part of the club gives you access to so many people with varied technical and hobby backgrounds that you can find an answer to nearly any question, usually in pretty short order.

Working now to overcome the challenges of getting good local HF reception in the city, Alan continues to be inspired in his amateur radio endeavors by a sense of responsibility to help others with emergency preparedness, and an eagerness to keep learning new skills.

- Susan Eshelman, VE7IIE

DOWN THE LOG...

SARC Monthly Meetings

2nd Wednesday (Sept-Jun)
1900 hrs local at PEP PREOC,
14275 96th Avenue, Surrey, BC

Weekly Club Breakfast

Friday at 0830 local
ABC Country Restaurant located
at 600 - 7380 King George Blvd.
Surrey

SARC Net

Tuesday at 2000 local
on 147.360 MHz (+) Tone=110.9

SEPARS Net

Tuesday at 19:30 local
on 147.360 MHz (+) Tone=110.9

Announcements & News

Next SARC Meeting
Wed., April 9th, features guest
speaker John White on lightning
protection, grounding and
safety.

SEPARS Monthly Workshop
Third Thursday, 7 to 9:30pm
Rm. 214, 13569 76th Ave.

Fox Hunt
May 14th. Mark your calendar,
Anton VE7SSD is the contact.
Details on page 8.

On the Web ve7sar.net

Between newsletters, watch
your e-mail for announcements
of events, monthly meetings and
training opportunities. These
announcements may also be
found on our web page.

SARC hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, also accessible on IRLP node 1980 and Echolink node 496228. On UHF we operate a repeater on 443.775MHz (+5MHz) Tone=110.9 and IRPL node 1463. Coming soon, a repeater at 224.000MHz (-1.6MHz).

VIA THE WEB

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